Applicant: Brian J. Cox PATENT Serial No.: 10/763,975 Atty Docket: 388700-058B

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## REMARKS

This Amendment is filed in response to the Decision on Appeal mailed September 9, 2010 ("Decision on Appeal") and pursuant C.F.R. § 41.50(b). In this Amendment, independent claims 23 and 40 are amended, and claims 23-28 and 41 are unchanged. Claims 1-22 were previously canceled, and claims 29-39, 42, and 43 were previously withdrawn. Following entry of this amendment, claims 23-28, 40, and 41 shall be pending.

In the Decision on Appeal, claims 23-28, 40, and 41 were rejected by the Board of Patent Appeals and Interference ("The Board") based on prior art grounds. For the reasons set forth below, these rejections are hereby traversed.

## STATUS OF PRESENT APPLICATIONS

On June 20, 2008, the Applicant filed a Notice of Appeal to the Final Office Action mailed February 21, 2008. In response to the Applicant's and the Examiner's arguments, The Board issued a Decision On Appeal having a notification date of September, 9, 2010.

In the Decision On Appeal, The Board reversed the Examiner's rejections of claims 23-28, 40, and 41 as being unpatentable over U.S. Patent No. 6.231.597 to Deem et al. ("Deem") and U.S. Patent No. 5,234,456 to Silvestrini ("Silvestrini") and entered new grounds of rejection of claims 23-28, 40, and 41 under 35 U.S.C. § 103(a) as being unpatentable over Deem. Pp. 5-6.

In view of the new grounds for rejection, The Board stated that in order to avoid termination of the appeal as to the rejected claims, the Applicant must either (1) reopen prosecution through submittal of an appropriate amendment of the claims so rejected: or (2) request a rehearing.

The Applicant herein submits amendments to the claims so rejected and requests reopening of prosecution of the present application according to C.F.R. § 41.50(b).

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## II. REJECTIONS UNDER 35 U.S.C. § 103

In the *Decision on Appeal, The Board* rejected claims 23-28, 40, and 41 under 35 U.S.C. § 103(a) as being unpatentable over *Deem*. Of these claims, claims 24-28 depend from claim 23 or a dependent claim that depends from claim 23, and claim 41 depends from claim 40. For at least the reasons set forth below, it is submitted that these prior art rejections should be withdrawn and the pending claims allowed.

In the Decision on Appeal. The Board asserted that:

[W]hile the Examiner erred by interpreting Deem's cover 102 as the claimed "reactive material," the material forming elements 14 at the mid-region 15 (the "bridge portion" or "occlusion region") of Deem's stent 10, 101, which reacts and expands when exposed to heat or electric current, meets this limitation. . . . By virtue of decreasing the cross-sectional area through which blood can flow to the aneurysm, the "reactive material" of claim 23 or the entire "occlusion region" of claims 40, "restricts" or "substantially restricts" the "flow of blood to said vascular aneurysm," respectively. Thus the Examiner's rejection is modified by interpreting the material forming elements 14 at the midregion 15 of Deem's stent 101 as the claimed "reactive material" as opposed to the material forming cover 102.

P. 5. In other words, *The Board* asserted that the claim recitations "said bridge portion including a reactive material, said reactive material being expanded when in a reacted state such that said reactive material restricts flow of blood to said vascular aneurysm when said reactive material is in said reacted state," as recited in independent claim 23, and "said occlusion region including a reactive material, said reactive material being expanded when in a reacted state such that said occlusion region substantially restricts flow of blood to said vascular aneurysm when said reactive material is in a reacted state," as recited in independent claim 40, are taught by the material forming elements 14 at the mid-region 15 of *Deem*.

Without conceding to the merits of the claims, independent claim 23 has been amended to recite a device for treating a vascular aneurysm comprising: a support structure sized for placement at a region of said vascular aneurysm; said support structure having a bridge portion spanning at least a neck region of said vascular

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aneurysm; said support structure having an open, non-tubular arced configuration; said bridge portion including a reactive material, said reactive material being volumetrically expanded when in a reacted state such that said reactive material restricts flow of blood to said vascular aneurysm when said reactive material is in said reacted state. Support for this amendment can be found throughout the present application as published in U.S. Publication No. 2004/0186562 and, more particularly, in paragraphs [0060] and [0070]. No new matter is added.

Without conceding to the merits of the claims, independent claim 40 has also been amended to recite an implant for treating a vascular aneurysm comprising: an implant body sized to reside at a region of said vascular aneurysm; said implant body having an occlusion region that substantially traverses a neck region of said vascular aneurysm; said implant body having an arc shape, said arc shape having a sweep less than 360 degrees; said occlusion region including a reactive material, said reactive material being volumetrically expanded when in a reacted state such that said occlusion region substantially restricts flow of blood to said vascular aneurysm when said reactive material is in a reacted state. Support for this amendment can be found throughout the present application as published in U.S. Publication No. 2004/0186562 and, more particularly, in paragraphs [0060] and [0070]. No new matter is added.

Deem cannot be relied upon for making obvious independent claims 23 and 40 at least for the reason that Deem fails to teach the claimed said reactive material being volumetrically expanded when in a reacted state such that said reactive material restricts flow of blood to said vascular aneurysm when said reactive material is in said reacted state, as recited in amended claim 23, and said occlusion region including a reactive material, said reactive material being volumetrically expanded when in a reacted state such that said occlusion region substantially restricts flow of blood to said vascular aneurysm when said reactive material is in a reacted state, as recited in amended claim 40. Deem teaches that:

Stent 10 preferably is constructed of a shape-memory material such as nickel-titanium alloy (nitinol) having an austenite phase transition

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temperature slightly above body temperature. In this case, the stent may be cooled into the martensite phase and compressed to a reduced delivery diameter, and conditioned to undergo a heat-activated phase transformation to a deployed, expanded state when heated to a temperature slightly above body temperature. Alternatively, an electric current may be applied to heat the stent to a temperature at which it transitions to the austenite phase, and assumes an expanded shape. Alternatively, the transformation temperature may be set below body temperature, and the stent mechanically constrained.

Stent 10 may be formed, for example, by wrapping a nitinol wire around a mandrel template, and then conditioning the wire through a series of heat treatments in accordance with methods that are per se known. Alternatively, stent 10 may be fabricated from either nitinol or stainless steel tubing or sheets using previously known electron discharge machining (EDM), chemical etching, or laser cutting techniques. As a further alternative, stent 10 may be formed from a biocompatible or bioerodible polymer.

Col. 5, lines 23-44. At no point does Deem teach or make obvious that any portion of the stent 10 is volumetrically expanded when in a reacted state. One having ordinary skill in the art would recognize that the phase transformation of a nickel-titanium alloy from a martensite phase to an austenite phase, as taught by Deem, represents a simple transformation in the structural form or winding of the nickel-titanium alloy-not a volumetric expansion of the alloy.

In view of the above, it becomes evident that Deem fails to teach or make obvious the claimed invention. Hence, withdrawal of these rejections and an indication of allowance are respectfully requested.

Turning to claims 24-28 and 41, these claims depend from independent claim 23 or 40 and are allowable for at least the same reasons as claims 23 and 40. However, these claims further limit the claimed invention and thus are separately patentable over the cited prior art.

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## CONCLUSION

In view of the foregoing, it is submitted that pending claims 23-28, 40, and 41 are now in condition for allowance. Hence, an indication of allowability is hereby requested.

If for any reason direct communication with Applicants' attorney would serve to advance prosecution of this case to finality, the Examiner is cordially urged to call the undersigned attorney at the below listed telephone number.

The Commissioner is authorized to charge any additional fee which may be required in connection with this Amendment to deposit account No. 50-2809.

Respectfully submitted,

Dated: November 9, 2010

Shane S. Swanson Registration No. 25,263

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